

WHAT IS CLAIMED IS:

1. A heat dissipative brushless electric motor assembly comprising:

a hub which has a center through opening;

5 an annular heat sink attached to said hub, said heat sink constructed of a heat conductive material, said heat sink being of a larger diameter than said hub, said heat sink having an annular ledge;

10 a controller including power devices of electronic components being mounted on said annular ledge, some of the heat that is generated by said controller to be conducted through said heat sink;

15 a stator being fixedly mounted on said hub, said stator including wire coils which generate heat during operation of said motor assembly; and

20 a rotor mounted about said stator, said rotor being secured to a shaft, said shaft being rotationally mounted within said center through opening, upon passing of an electrical current through said wire coils said rotor is rotated which rotates said shaft, said rotor including an cover which surrounds said wire coils, said cover including a series of venting holes, said venting holes to provide an escape for generated heat from said wire coils and said controller which will then be conducted through said outer cover into ambient.

2. The heat dissipative brushless electric motor assembly as defined in Claim 1 wherein:

said casing having a series of exteriorly mounted heat conducting fins.

5 3. The heat dissipative brushless electric motor assembly as defined in Claim 1 wherein:

said hub being cylindrical.

4. The heat dissipative brushless electric motor assembly as defined in Claim 2 wherein:

said fins being continuous.

5. A brushless electric motor assembly comprising:
an external enclosing casing having an internal compartment; and

15 a disc shaped rotor rotatably mounted within said internal compartment, said rotor being mounted on a shaft, said disc shaped rotor having an internal chamber, said disc shaped rotor having a series of ventilating holes to provide an escape for generated heat from said internal chamber into said internal compartment to then be conducted through said external enclosing
20 casing into ambient.

6. The heat dissipative brushless electric motor assembly as defined in Claim 5 wherein:

5 a stator being mounted within said internal chamber, said stator having wire coils for conducting of electricity, heat generated from said wire coils is also to be conducted into said internal chamber and hence into said internal compartment to also then be conducted through said casing into the ambient.

7. The heat dissipative brushless electric motor assembly as defined in Claim 5 wherein:

said casing having a series of exteriorly mounted heat conducting fins.

8. The heat dissipative brushless electric motor assembly as defined in Claim 5 wherein:

15 a heat sink located exteriorly of said internal chamber, said heat sink being attached to a hub, said hub being mounted on said heat sink; and

20 a stator mounted within said internal chamber, said stator having wire coils for conducting of electricity, said stator being fixedly mounted on said hub, said hub being located within said internal chamber, said hub having a center through hole, said shaft being located within said center through hole, whereby heat that is generated from said wire coils is conducted into said internal chamber and then into said internal compartment to be dissipated into the ambient through said casing.

9. The heat dissipative brushless electric motor assembly as defined in Claim 5 wherein:

5 a controller including power devices, electronic components being mounted on said heat sink and located within said internal chamber, heat that is generated by said controller is to be conducted through said heat sink and also into said internal chamber to then be dissipated through said casing.

10. A heat dissipative brushless electric motor assembly comprising:

10 a casing having an internal compartment; and

15 a disc shaped rotor rotatably mounted within said internal compartment, said rotor being mounted on a shaft, said disc shaped rotor having an internal chamber, said rotor having a cover which surrounds a stator, said casing includes a series of venting holes, said venting holes to provide an escape for generated heat from said stator which will then be conducted through said casing into ambient.

11. The heat dissipative brushless electric motor assembly as defined in Claim 10 wherein:

20 said stator being mounted within said internal chamber, said stator being fixedly mounted on a hub, said hub being located within said internal chamber, said hub having a center through opening, said shaft being located within said center through opening.

12. The heat dissipative brushless electric motor assembly as defined in Claim 11 wherein:

5 a heat sink located exteriorly of said internal chamber, said heat sink being attached to said hub, said hub being mounted on said heat sink, whereby upon passing of electric current through said stator said rotor is rotated which rotates said shaft.

13. The heat dissipative brushless electric motor assembly as defined in Claim 12 wherein:

10 said heat sink includes a disc shaped alcove, said center through opening being centrally located within said disc shaped alcove, a planetary gear system being mounted within said disc shaped alcove, said shaft connecting with said planetary gear system.

15 14. The heat dissipative brushless electric motor assembly as defined in Claim 10 wherein:

said casing having a series of exteriorly mounted heat conducting fins.

20 15. The heat dissipative brushless electric motor assembly as defined in Claim 14 wherein:

said fins being continuously arranged on said casing.